

elements. The front part of the latch 4 includes two symmetrical walls 21 having recesses 22 for supports 23 of the blocking device. The base 17 of the frame 3 comprises a pusher 8 with pusher spring 7 moveable along the axis of the frame 3. The pusher spring 7 is so arranged in the opening 18 of the base 17 of the frame 3 that one end of it bears against finger 26 of pusher 8 while other end bears against protruding element 27 of the base 17 of frame 3. The blocking device 6 blocks the latch 4 in the engaged position. To block the latch, the blocking device 6 spring loaded by the spring 5 moves longitudinally and parallel to the base 17 and is guided by oblong apertures 14 in flank walls 12 and 13 of frame 3, the motion of the blocking device is controlled by release button 9. One end of spring 5 bears against a centering element 28 of the blocking device 6 to prevent accidental displacement of the spring 5 in the direction of walls 12 and 13 of the frame 3. The other end of spring 5 bears against the frame 3 and anchoring element 30 of the buckle through the support 29. The support 29 includes a guiding element 31 (e.g having an opening) for the spring 5 of the blocking device 6 and is so secured in the buckle that the displacement of its ends towards the direction of movement of the tongue 1 is prevented. The centering element 28 and guiding element 31 of the spring 5 are arranged to prevent the displacement of the spring 5 of the blocking device 6 towards flank sides of the frame 3 in case of deformation of the spring in operational mode of the buckle. The flank walls 32 of release button 9 provide slots 33 for engaging the ends of blocking device 6.

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The support 29 may be shaped as a bent rafter bearing against the apertures in the flank walls 12 and 13 of frame 3 or, alternatively, as an anchoring element rigidly and laterally secured at the base 17 of the frame 3 (e.g. riveted). Receiving part of the buckle is entirely enclosed in protective housing 34. The buckle for a seat belt is secured to a seat or a frame of a motor vehicle by means of the anchoring element 30.

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The buckle as described above operates in the following manner. When in the locked position, the tooth 20 of the latch 4 is simultaneously received within the opening 2 of the tongue 1 and within the opening 18 of the base 17, where the blocking device 6 is pressed by the spring 5 against the oblong apertures 14 of the walls 12 and 13 in the direction of the tongue, so that spring 5 biases the blocking device to an upper edge 35 of side walls 21 of the latch 4. Thus, the tooth 20 of the latch 4 prevents the withdrawal of the tongue from the buckle and, at the same time, permanent pressure of the spring 5 against the latch 4 by the use of flank walls 12 and 13 provides a reliable engagement of

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the tooth 20 within the opening 2 of the tongue 1 and within the opening 18 of the base 17. As any failure of the spring of the blocking device to operate properly may result in a spontaneous withdrawal of the tooth from the opening 2, the coil spring 5 of the blocking device is tightened prior to its usage in the assembly and arranged to have a low relative deformation.

Normally, to release the buckle, the release button 9 is depressed. The manually moveable release button 9 reaches the blocking device 6 and, overcoming the bias of the spring 5, forces the blocking device 6 to move within oblong apertures 14 toward the anchoring element 30 and to a distance enough to break its contact to the edges 35 of the latch. The latch 4 being under action of the biasing spring 7 of the pusher, rises as high as the depth "b" of the recess 22 of the latch, whereby the tooth 20 is removed from the opening 2 of the tongue 1 and the pusher 8 withdraws the tongue 1 from the buckle, thus releasing all buckle mechanism. Sometimes, in extreme situations or, alternatively, in case of weakening of the pusher's spring, it may occur that the latch would fail to reach the sufficient height to release the tongue from engagement with the tooth 20. By depressing the release button 9, the blocking device 6 is pressed against the supports 23, the said pressure provides additional power to the latch, thus forcing the latch to move toward the anchoring element and disengage the tongue from the tooth 20 of the latch 4.

The above described can only be achieved by actuating the release button if a normal unlocking procedure is unable. The height labeled as "a" of supports 23 is defined by the depth "b" of recess 22 whereby the said height provides an operable engagement of the blocking device 6 with the supports and prevents the blocking device from sliding over the supports. When the latch is in the lifted position, the blocking device is guided to the gap 25 which is defined between the supports 23 and the front edge 24 of recesses 22 of side walls of the latch. By choosing the best suitable acute angle of arrival " $\gamma$ " between supports 23 and longitudinal axis of the latch for any specified buckle mechanism, the optimum force for unlocking the latch of that specified buckle mechanism is achieved due to a contact of blocking device with the mentioned supports.

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Accordingly, the present solution provides forced unlocking of the buckle by depressing the release button even if normal automatic unlocking under action of the force of spring has failed for some reason. The buckle can be always unlocked under action of the force applied to the release button.

Thus, taking into consideration the above description, the present solution is regarded as having substantially more reliable performance over already known solutions.